

EASTERN UNIVERSITY, SRI LANKA

FIRST YEAR SECOND SEMESTER EXAMINATION IN AGRICULTURE – 2010/2011
IT 1201 INFORMATION AND COMMUNICATION TECHNOLOGY

Time: One hour

Answer all questions.



Q1.

- I. Discuss the differences between **Data** and **Information**.
- II. What is Computer? List any 5 characteristics of a computer.
- III. What is an Operating System? Give 5 examples of Operating Systems.
- IV. Explain Analog, Digital & Hybrid computer.
- V. What do you mean by **Hardware**? Give three functions of hardware.
- VI. Briefly explain, any three types of Secondary Memory.
- VII. Describe the following:
 - a. Input Devices
 - b. Output Devices
- VIII. Describe the following:
 - a. Laser Printer
 - b. Plotters

Q2.

I. Convert the following into Octal.

a. $(1023)_{10}$

b. $(55.952)_{10}$

II. Convert the following into Hex:

a. $(952)_{10}$

b. $(256)_8$

III. Draw the truth table and switch representation diagram of the AND function.

IV. Prove the **DeMorgan's** Theorem using the truth table.

V. Prove the following identities using Boolean algebra:

a. $(A + B)(A + \overline{AB})C + \overline{A}(B + \overline{C}) + \overline{AB} + ABC = C(A + B) + \overline{A}(B + \overline{C})$

b. $\overline{\overline{AB} + \overline{A} + \overline{AB}} = 0$

VI. List the seven rules of "Karnaugh Map" simplification.

VII. Simplify the following expression Karnaugh map and Draw logic circuit for the simplified function.

	AB			
CD	0	1	1	0
	1	1	1	1
	0	1	0	0
	0	1	0	0